Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Unlicensed Operation in the TV Broadcast Bands	)	ET Docket No. 04-186
	)	
	)	
Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band	)	ET Docket No. 02-380
	)	

OPPOSITION AND RESPONSE TO PETITIONS FOR RECONSIDERATION

The Public Interest Spectrum Coalition ("PISC")[1] hereby responds, pursuant to Section 1.429(f) of the Commission's rules, 47 C.F.R. § 1.429(f), to the Petitions for Reconsideration of the Commission's *Second MO&O*[2] in the above-captioned proceedings. While each of the five petitions for reconsideration seeks to amend the rules finalized in the *Second MO&O*, PISC submits that none of the petitions requires any significant changes to the framework governing unlicensed operation of devices on so-called TV White Space (or "TVWS") channels. As a result, PISC urges the Commission to deny the NCTA and Cellular South Petitions, as discussed in Parts I and II below; and to grant the remaining petitions, as discussed in Parts III and IV below. Furthermore, PISC submits that the Commission should move with all possible haste to facilitate both implementation of the TV Bands Database and certification of new devices brought forth for deployment on the band, even as it brings these final challenges to a swift conclusion.

[1] For purposes of this Opposition, PISC includes the organizations Free Press, Media Access Project, New America Foundation, and Public Knowledge. PISC members have played an active role in this proceeding since the original Notice of Inquiry in 2002.

[2] *Unlicensed Operation in the TV Broadcast Bands, Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band,* Second Memorandum Opinion and Order, 25 FCC Rcd 18661 (2010) ("*Second MO&O*").

I. The Commission Should Maintain Public Transparency and Not Limit Access to Non-Proprietary Information in the TV Bands Database.

PISC strongly opposes the National Cable & Telecommunications Association ("NCTA") petition for reconsideration, which seeks reversal of the Commission's decision to promote transparency and accountability by ensuring that the data used to determine when and where unlicensed devices can access TVWS channels is accessible by the public.[3] Under the rules governing administration of any database to be accessed by TV bands devices ("TVBDs"), the Commission required that "all information . . . in a TV bands device database be publicly available, including fixed TV bands device registration and voluntarily submitted protected entity (*e.g.*, cable head ends) information."[4] As PISC stated last year in its response to the Commission's request for comment on the rules governing database administration, "public disclosure is necessary for data that functionally serves as 'licensing information' [and thereby] qualifies Protected Entities to reserve access to TV band channels."[5]

In its petition, NCTA proposes that the Commission "limit use of the information to obtaining lists of channels available for [a TVBD] to use," and "*restrict all other access*, including access for viewing, to registered device manufacturers and operators of broadcasting and communications businesses."[6] NCTA claims that its proposal to deny public access to the information in a database is motivated by a fear that "the precise geographic coordinates of cable

[3] Petition for Reconsideration of National Cable & Telecommunications Association, ET Docket No. 04-186 (filed Jan. 5, 2011) ("NCTA Petition").

[4] *Second MO&O* ¶ 119 (noting that the Commission "will not require the public disclosure of information that a database manager may collect to support additional services . . . provided that this information also is not required to be provided by our rules.").

[5] Comments of the Public Interest Spectrum Coalition, ET Docket No. 04-186, at 11 (filed Feb. 12, 2010), in response to "Office of Engineering and Technology Invites Proposals from Entities Seeking to be Designated TV Band Device Database Managers," ET Docket No. 04-186, *Public Notice*, DA 09-2479 (rel. Nov. 25, 2009) ("Database *Public Notice*").

[6] NCTA Petition at 7 (emphasis added).

headends" could be discoverable by "anyone who wants to see it for any purpose – including terrorists and saboteurs."[7] The Commission should reject NCTA's overheated contentions and its reconsideration request for several reasons.

First, NCTA does not suggest any credible reason for supposing that its member companies' cable headends are a likely target for "terrorists and saboteurs."[8] To the extent that cable systems may be characterized as components of critical infrastructure for broadband Internet and EAS networks, it is not difficult to imagine far more critical pieces of communications infrastructure – such as larger interconnection points – than individual cable headends and associated tower receive sites. However, even if cable headends were indeed vital and vulnerable communications infrastructure, NCTA's request is not as "narrow[ ]"[9] as the petition suggests. That is, NCTA does not ask the Commission only to limit the public availability of the precise geographic location of its cable headends. Instead, it uses the example of cable headends – and their alleged allure to terrorists – as a pretext to petition for limiting access to *all information* in the TV bands databases – including all FCC data aggregated from already-public sources – to a handful of TV band incumbents and other private companies with a financial interest in the functioning of the database.

Thus, NCTA's requested rule change is overbroad in the extreme. Even assuming, *arguendo*, that public access to the "precise" geographic location of cable headends would pose a threat to national security, this provides no basis for NCTA's sweeping request that there should be no public access to any TVBD database information beyond a list of available channels at a location. Only a small fraction of the information in the TV bands database could be even

[7] *Id.* at 2-3.

[8] *See, e.g.*, *id.* at 4-6 (asserting that "the federal government has recognized that communications networks are part of the nation's critical infrastructure and vulnerable to harm").

[9] *Id.* at 1.

arguably deemed non-public and sensitive, from the perspective of homeland security or public safety. The vast majority of information that database administrators will aggregate and coordinate is *already* publicly available.[10]

The tragic irony – or perhaps comic relief – in NCTA's claim is that cable headend information is itself already publicly available. NCTA's petition fails to cite or discuss Section 76.1708 of the Commission's rules, 47 C.F.R. § 76.1708, which stipulates that "[t]he operator of every cable television system shall maintain for public inspection the designation and location of its principal headend." While NCTA seeks to prevent disclosure of the "precise geographic coordinates" of such facilities, the location of such headends already is a matter of public record, pursuant to this Commission rule. Section 76.1700(b) of the rules calls for such records to be "maintained at the office which the system operator maintains for the ordinary collection of subscriber charges, resolution of subscriber complaints, and other business or at any accessible place in the community . . . [and to be] available for public inspection at any time during regular business hours." NCTA's suggested TVWS rule change might, we must suppose, protect "cable headends against casual, one-stop browsing"[11] by lazy saboteurs who cannot be bothered to make the trip to the local cable system's office before close-of-business. But that is no basis for granting NCTA's fatally overbroad and moot request for protection of information that is already public.

Cable headends foreclose to the public an enormous (and, in PISC's view, unjustifiable) amount of unlicensed spectrum access. If NCTA were to obtain the sort of protection it seeks in

[10] As the various database proposals acknowledge, most of this data will be imported, aggregated, and updated continuously from already public FCC databases, which include the FCC's Universal Licensing System database and the FCC's Consolidated Database System. For a sample of these existing FCC primary data sources that a database provider might aggregate and update, see, for example, Spectrum Bridge database proposal, ET Docket No. 04-186, at 11-12 (filed Jan. 4, 2010).

[11] NCTA Petition at 6.

its petition – for information that already is public, no less – there would be no transparency or safeguard to prevent a cable company from registering locations that block off far more spectrum than is warranted. Moreover, NCTA's proposal to limit the use of TVBD information strictly "to obtaining a lists of channels available for that device to use" would hinder significantly or altogether preclude the provision of value-added services by database providers, manufacturers, network operators, and other parties, which services could promote spectrum efficiency and enhance consumer welfare in the future. NCTA's proposed rule change would hamper innovation in these value-added services. Indeed, if the Commission were to grant NCTA's request, it could undermine the viability of both the TVWS band as a whole and of the companies that may serve as database administrators.

Finally, as a policy matter, PISC believes that public disclosure is necessary for data that functionally serves as "licensing information," insofar as it allows Protected Entities to reserve access to TV band channels and preclude TVBDs' access thereto. Under the Commission's current rules, the various database providers will coordinate with one another, aggregate this information, and use it to generate the list of channels accessible for public access in each locality. As noted above, most of this data will be imported, aggregated, and updated continuously from already public FCC databases. Ensuring that this information remains consistent with FCC records and properly updated will be an obligation of the TVBD providers and an additional reason for public transparency. Most critically, TVDB database managers should be required to disclose to the public the registration and location information of Protected Entities "that are licensed by [the] FCC but are not available in the FCC databases via a web portal."[12] According to Spectrum Bridge and several other database applicants, these could

[12] White Spaces Proposal by KB Enterprises LLC and LS Telcom, ET Docket No. 04-186, at 14 (filed Jan. 4, 2010).

include Low Power TV stations and TV translators; Cable TV headends outside the protection area of the related TV site; Temporary Broadcast Auxiliary or "BAS" Devices; and Low Power Auxiliary Devices such as portable microphones.[13]

Whether all Protected Entity information is available on an automated basis from FCC databases via a web portal, we believe that any data that serves as an input to determine the availability of frequency assignments should be readily accessible through a public web interface, albeit on a read-only basis to protect the integrity of the data repository.

II. The Commission Should Reject as Untimely and Overly Restrictive the Request by Cellular South to Limit the Public's Use of Channel 51.

In its petition for partial reconsideration, Cellular South requests that its out-of-band operations in the 700 MHz band A Block (above channel 51) be granted "equivalent adjacent channel interference protection to that enjoyed by other television band incumbents."[14] More specifically, it proposes that fixed TVBDs be prohibited from operating on channel 51; that personal/portable devices operating on channel 51 should be limited to 40 milliwatts EIRP (rather than 100 mW allowed under the current rules where there is no TV station assigned locally to either channel 50 or 51); and that A Block base stations be permitted to register as incumbent licensees in the TV Bands Database "so that TVBDs may afford them the required separation protection."[15]

PISC opposes Cellular South's proposed rule changes as untimely, unfounded, and overly restrictive, at least with respect to personal/portable devices.

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[13] *Id.*; *see also* Database *Public Notice* at 1 n.4.

[14] Cellular South, Inc., Petition for Partial Reconsideration, ET Docket No. 04-186, at 9 (filed Jan. 5, 2011) ("Cellular South Petition").

[15] *See id.* at 9.

As an initial matter, Cellular South discusses at length the course of events during the past *three years* – starting with interference testing that led up to the November 2008 order in these dockets, the period to file a petition for reconsideration of that order, and even during the subsequent 18 months prior to the September 2010 release of the *Second MO&O* – and claims that it "could not have participated meaningfully earlier in this proceeding" because the company "lacked sufficient knowledge of the potential for interference from TVBDs operating on Channel 51."[16] Cellular South introduces new facts and new issues not in the record and never before considered by the Commission in this proceeding. Nevertheless, it claims that under one or more of the exceptions in FCC Rule Section 1.429(b), "the Commission should consider this Petition despite Cellular South's having not previously participated in this proceeding."[17]

Yet, as Cellular South acknowledges,[18] it acquired its A Block licenses in the 700 MHz auction that concluded in early 2008, roughly seven months prior to release of the November 2008 order.[19] Cellular South concedes that it was aware at that time that it acquired those licenses subject to potential interference from authorized users operating on adjacent TV channel 51, "including full service and low power television stations ('LPTV')."[20] Indeed, the company paid a considerable discount (on a MHz/pop basis) compared to the prices paid for B and C Block spectrum precisely because it was well known that the A Block (incorporating former TV channel 52 spectrum) was not protected from TV band interference. Despite this, Cellular South remained silent during the extensive interference testing conducted by the Office of Engineering

[16] *Id.* at 4-5.

[17] *Id.* at 5.

[18] *Id.* at 4 and n. 4.

[19] *Unlicensed Operation in the TV Broadcast Bands; Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, Second Report and Order and Memorandum Opinion and Order, 23 FCC Rcd 16807, ¶¶ 1-3 (2008).

[20] Cellular South Petition at 4.

and Technology that extended into the summer of 2008. And even after the adoption of the November 2008 order the company failed to file a Petition for Reconsideration on this issue by the March 2009 deadline – or even to raise the issue during the subsequent period culminating in the Commission's *Second MO&O* in September 2010.

Cellular South's petition for reconsideration is untimely, and the exceptions set forth in Section 1.429(b) of the rules do not justify its consideration. The rule sets forth a three-part test that allows the Commission to consider arguments not previously presented if the facts relied on relate to new events or circumstances that arose, or that were unknown to the petitioner until, "after [the] last opportunity to present them to the Commission." Even if the Commission were to give credence to Cellular South's claim that, before November 2008, "equipment had not been developed for the Lower 700 MHz wireless spectrum"[21] and thus could not be tested for interference concerns, the company provides no explanation as to why it could not have obtained such information through the exercise of ordinary diligence and submitted comments or presentations prior to the issuance of the *Second MO&O* challenged here.

Moreover, even if the Commission determines that consideration of Cellular South's engineering analysis is "required in the public interest," pursuant to Rule Section 1.429(b)(3), PISC submits that Cellular South's proposed restriction on personal/portable devices is not justified. According to analysis filed with and summarized in the Cellular South Petition, "the interference Block A systems would experience from TVBDs would serve to prevent base station reception of consumer unit transmissions when TVBDs are operating in proximity to the Block A base station."[22] According to the analysis, the minimum separation distance between

[21] *Id.* at 5.

[22] *Id.* at 8.

the TVBD and the 700 MHz receiver would be 855 feet for a fixed TVBD operating at 4 watts EIRP; and 135 feet for a personal/portable device operating at 100 mW.[23]

Even were these separation distances valid, it appears that Cellular South's base stations could be protected from harmful interference in a manner that does not preclude the operation of TVBDs on channel 51 at their authorized power levels immediately, and nationwide, when in reality A Block base stations will not be built out rapidly or in every location nationwide. Moreover, other A Block holders may not experience this problem; and, in fact, Cellular South may discover in practice that it does not suffer harmful interference, particularly from mobile TVBDs operating between 40 and 100 mW. Therefore, PISC requests that the Commission consider, in the alternative, permitting the requested registration of A Block base stations in the TV Bands Database, but with protection against TVBDs operating above 40 mW *only* within a well-defined exclusion zone that is no larger than necessary to avoid harmful interference under real world conditions from fixed and personal/portable TVBDs, respectively.

III. The Commission Should Modify its Unnecessarily Restrictive 76 Meter HAAT Requirement.

In a joint petition for partial reconsideration, the Wireless Internet Service Providers Association ("WISPA") and its co-filers demonstrate that the *Second MO&O*'s new 76-meter limit on the antenna HAAT for a fixed TVBD[24] is too low to permit service in many remote and mountainous areas, and will therefore reinforce rather than help remedy the nation's rural broadband digital divide.[25] WISPA proposes instead to allow antenna heights up to 250 meters

[23] *See id.* at 7-8.

[24] *See Second MO&O* ¶ 66.

[25] Joint Petition for Partial Consideration of Wireless Internet Service Providers Association, Federation of Internet Solution Providers of the Americas, Native American Broadband Association, Spectrum Bridge, Inc., Comsearch, Carlson Wireless Technologies Inc., and Wireless Strategies, Inc., ET Docket No. 04-186, at 3-7 (filed Jan. 5, 2011) ("WISPA Petition"). Appendix B in particular demonstrates that there are very substantial portions of the country where fixed broadband could not be deployed solely because the 76-meter HAAT limit is too low.

HAAT coupled with corresponding increases in the required separation distance from TV station transmitters, thereby permitting more extensive and economical rural broadband coverage without increasing the risk of harmful interference to incumbent TV stations.[26]

PISC concurs that, if the Commission were to find that permitting higher fixed antenna heights can be accommodated without unduly increasing the likelihood of harmful interference for the viewing of local television programming, it should change the rules accordingly. WISPA *et al.* state that there is no testing or other support in the record to justify the Commission's unexpected decision to preclude the use of TV White Space to meet remote and rural broadband needs in large areas of the country. If granting fixed broadband providers greater flexibility to trade-off between antenna height and separation distance from TV broadcast transmitters will permit WISPs and other providers to cover more rural, mountainous, and hilly areas at lower cost, the Commission should amend the rules to accommodate this compelling public need.

IV. The Commission Should Modify its Unnecessarily Restrictive Emission Mask Requirement for Fixed TVBDs.

In the *Second MO&O*, the Commission tightened the adjacent-channel emission limits in Section 15.709(c)(1). WISPA *et al*., the WiFi Alliance, and Motorola filed petitions requesting that the Commission relax the out-of-band emission levels in a manner that will facilitate more deployment and lower costs for providers and consumers.[27] As noted in the WISPA Petition (citing Motorola findings), the stricter mask would result in a 25 percent loss in usable bandwidth in a 6 MHz channel, a 33 percent increase in network deployment costs (due to the larger number of access points required to cover a given area), and a 65 percent increase in CPE costs. According to WISPA, "the existing OOBE mask would force WISPs to charge their

[26] *See id.* at 4-5.

[27] *Id.* at 7-9; Petition for Reconsideration of Wi-Fi Alliance, ET Docket No. 04-186, at 2 (filed Jan. 4, 2011); Petition for Reconsideration of Motorola Solutions, Inc., ET Docket No. 04-186, at 2 n.5 (filed Jan. 5, 2011).

customers roughly 50 percent more in monthly subscription fees simply to meet this overly strict and unnecessary spectral mask requirement."[28]

While PISC has no means to verify the engineering and cost data submitted by these petitioners, as consumer advocates we support the proposed rule changes if feasible. If, as these petitioners propose, the rules can be amended to grant operators the flexibility to use a less restrictive spectral mask and a corresponding increase in the adjacent-channel distance separation criteria in Section 15.712(a)(2), we believe the benefits are so clearly in the public interest that the Commission should give this change serious and favorable consideration.

Respectfully Submitted,

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[28] WISPA Petition at 8.